

What is claimed is:

- SJ* 1. A digital camera that records a captured image as digital data, said digital camera having:
- BL* 5 an image pickup device equipped with color filters that are located so as to correspond to individual pixels and that perform color separation of the image signals;
- 10 an A/D converter that converts the image signals obtained by said image pickup device into digital image data;
- 15 a recording device that records, together with said digital image data, data regarding the alignment of the color filters located so as to correspond to individual pixels,
- a data processor that, after performing color separation of said digital image data into pixel data of different colors based on said recorded filter alignment data, interpolates for missing pixels for each color; and
- 20 a display device that reproduces the image comprising complete pixel data of different colors that is obtained from the data processor.
2. A digital camera as claimed in Claim 1, wherein said recording device includes a memory card that is detachable from said digital camera.
3. A digital camera as claimed in Claim 1, said digital camera having an output unit that outputs the digital image data and filter alignment data to an external device.
4. A digital camera that records an image as digital image data, said digital camera having:

- an image pickup device equipped with color filters that are located so as to correspond to individual pixels and that perform color separation of the image signals;
- 5 an A/D converter that converts the image signals obtained by said image pickup device into digital image data;
- a recording device that records, together with said digital image data, data regarding the alignment of the color filters located so as to correspond to individual pixels,
- 10 a data processor that, after performing color separation of said digital image data into pixel data of different colors based on said recorded filter alignment data, interpolates for missing pixels for each color to produce complete pixel data for each color; and
- 15 an output unit that outputs to an external device the complete pixel data of each color obtained from said data processor together with the filter alignment data recorded on said recording device.

5. A digital camera as claimed in Claim 4, said digital camera having a display device that reproduces the image comprising the complete pixel data of each color that is obtained from said data processor.

- 20 *Duba 47* 6. A method for recording and displaying an image, comprising the steps of:
- sensing an image with an image sensor having an array of pixels, where each pixel generates data relating to one of a plurality of colors;
- storing the data generated by the individual pixels of the image sensor at a first site;

storing information which describes the colors that are respectively associated with the individual pixels in said array at said first site; transmitting the stored data and the stored information from said first site to a second site;

5 interpolating said data at said second site in accordance with said stored information to generate complete color data for the individual pixels; and reproducing the image in accordance with the complete color data.

10 7. The method of claim 6 wherein each of said pixels in the image sensor generates data relating to one of three colors, and said complete color data comprises a combination of all three colors for any individual pixel.

15 8. The method of claim 6 further including the step of performing a first interpolation of the stored data at said first site, in accordance with said information, to produce a first set of complete color data, transmitting said first set of complete color data to said second site, and reinterpolating said first set of complete color data at said second site in accordance with said stored information, using a different interpolation process, to produce a second set of complete color data.

9. The method of claim 6 further including the step of compressing the image data at said first site prior to transmitting it to said second site.

20 10. A digital camera that records a captured image as digital data, said digital camera comprising:
an image pickup device having individual pixels that sense different respective components of an image;

an A/D converter that converts image signals produced by said image pickup device into digital image data;

5 a recording device that records, together with said digital image data, data regarding the arrangement of said individual pixels of the image pickup device relative to said different components;

a data processor that performs separation of said digital image data into pixel data of different components based on said recorded pixel arrangement data, and interpolates for missing pixels for each component; and

10 a display device that reproduces the image comprising complete pixel data of different components that is obtained from the data processor.

11. A digital camera as claimed in Claim 10, wherein said recording device includes a memory card that is detachable from said digital camera.

12. A digital camera as claimed in Claim 10, said digital camera having an output unit that outputs the digital image data and pixel arrangement data to an 15 external device.

13. A digital camera that records an image as digital image data, said digital camera comprising:

an image pickup device having individual pixels that sense different respective components of an image;

20 an A/D converter that converts image signals produced by said image pickup device into digital image data;

a recording device that records, together with said digital image data, data regarding the arrangement of said individual pixels of the image pickup device relative to said different components;

a data processor that performs separation of said digital image data into pixel data of different components based on said recorded pixel arrangement data, and interpolates for missing pixels for each components to produce complete pixel data for each component; and

- 5 an output unit that outputs to an external device the complete pixel data of each component obtained from said data processor together with the pixel arrangement data recorded on said recording device.

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steps of:

- 10 sensing an image with an image sensor having an array of pixels, where each pixel generates data relating to one of a plurality of different components of an image;
- storing the data generated by the individual pixels of the image sensor at a first site;
- 15 storing information which describes the arrangement of the individual pixels in said array, relative to said different components, at said first site;
- transmitting the stored data and the stored information from said first site to a second site;
- interpolating said data at said second site in accordance with said stored 20 information to generate complete image data for each of the individual pixels; and
- reproducing the image in accordance with the complete image data.

15. The method of claim 14 wherein each of said pixels in the image sensor generates data relating to one of a plurality of colors, and said complete image data comprises a combination of said plurality of colors for each individual 25 pixel.

16. The method of claim 14 further including the step of performing a first interpolation of the stored data at said first site, in accordance with said information, to produce a first set of complete image data, transmitting said first set of complete image data to said second site, and reinterpolating said first set of complete image data at said second site in accordance with said stored information, using a different interpolation process, to produce a second set of complete image data.

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